Claims

What is claimed is:

1. A method of transmitting an amplified RF signal comprising:

providing of a lookup table (LUT) for storing of predistortion data;

providing a power amplifier circuit for receiving a first analog RF signal and for

providing the amplified RF signal therefrom;

receiving of a digital modulated signal;

indexing of the LUT to provide indexed predistortion data;

predistorting the digital modulated signal in dependence upon the indexed predistortion

data to form a predistorted digital modulated signal;

converting the predistorted digital modulated signal into an analog modulated signal;

amplifying the analog modulated signal using the power amplifier to form the amplified

RF signal;

sampling a portion of the amplified RF signal; and,

varying the index within the LUT for other than continuously changing the

predistortion data that is used for predistorting of the digital modulated signal in

dependence upon the sampled amplified RF signal.

2. A method according to claim 1 comprising:

providing a digital signal having a first predetermined symbol pattern concurrently with

the digital modulated signal;

sampling a pre-defined portion of the amplified RF signal;

extracting a second predetermined symbol pattern from the amplified RF signal;

comparing the second predetermined symbol pattern to the first predetermined symbol

pattern; and,

varying the index within the LUT in dependence the comparison.

3. A method according to any of claims 1 and 2 wherein the predistortion data is varied

in dependence upon at least one of a temperature of the power amplifier and supply

voltage and output load.

4. A method according to any of claims 1, 2, and 3 wherein sampling the portion of the amplified RF signal comprises:

providing an amplitude detector with a predetermined dynamic range corresponding to higher amplitudes of the amplified RF signal in order to provide the sampling for varying the index within the LUT.

5. A method according to claim 4 comprising:

detecting with the amplitude detector the magnitude of the amplified RF signal;

determining an index within the LUT corresponding to a predistortion data for predistorting the digital modulated signal to correct the sampled amplified RF signal; and

feeding the determined index back to the LUT in order to effect the predistortion of the digital modulated signal to correct the sampled amplified RF signal.

6. A method according to any of claims 1, 2, 3, 4, and 5 comprising:

varying the index within the LUT until the difference between the second predetermined symbol pattern and the first predetermined symbol pattern are approximately minimized.

7. A method according to claim 4 comprising:

detecting with the amplitude detector the magnitude of the amplified RF signal;

providing a predetermined relationship between a magnitude and phase response of the power amplifier circuit;

determining a phase of the amplified RF signal in dependence upon the predetermined relationship; and,

varying the index within the LUT in dependence upon the determined amplitude and phase of the amplified RF signal.

8. A method according to claim 1, 2, and 3 wherein sampling the portion of the amplified RF signal comprises:

providing a receiver circuit with a quadrature down-conversion mixer;

quadrature sampling of the amplified RF signal with the receiver circuit; and,

detecting an amplitude and phase of the amplified RF signal.

9. A method according to 1,2,3 and 8 wherein the receiver circuit is a same receiver circuit used within a receive path of a transceiver system.

10. A method according to claim 1,2, 3 and 8 comprising:

determining an index within the LUT corresponding to a predistortion data for predistoring the digital modulated signal to correct the amplitude and phase of the sampled amplified RF signal;

varying the index within the LUT in dependence upon the determined amplitude and phase of the sampled amplified RF signal.